

**REMARKS**

Claims 1-11 and 13-20 are pending in this application. By this Amendment, claims 1, 13, 17 and 19 are amended, and claim 20 is added. Reconsideration based on the above amendments and following remarks is respectfully requested.

Applicants gratefully acknowledge that the Office Action indicates that claims 15 and 16 are allowed.

**I. Restriction Requirement**

The Office Action asserts that Applicants traverse the previous Restriction Requirement on the grounds that linking claim 17 is allowable. This assertion is respectfully traversed.

As indicated in the October 9, 2002 Restriction Requirement, MPEP §806.05(e) states that a process and apparatus for its practice can be shown to be distinct if either or both of the following are present: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process.

However, MPEP §806.05(e) also states that, for example:

If the apparatus claims include a claim to "means" for practicing the process, the claim is a linking claim and must be examined with the elected invention. If it is ultimately allowed, rejoined or as required.

MPEP §806.05(e) provides an example of a linking claim.

Traversal of the Restriction Requirement is on the grounds that claim 20 is a method claim to steps practiced by the apparatus of the elected claims. Therefore, claim 20 is a linking claim that links the method and apparatus claims, and must be examined with the elected invention. When linking claim 20 is ultimately allowed, the rejoinder of method claims 1-11 and 19 is required. Further, traversal is on the ground that a thorough search of the subject matter of claim 20 would encompass a search for the method claims 1-11 and 19.

Applicants thus respectfully submit that the grounds for restriction, even if previously proper, are no longer proper in view of claim 20.

**II. The Claims Define Allowable Subject Matter**

The Office Action rejects claims 13, 14 and 17-19 under 35 U.S.C. §103(a) as unpatentable over Japanese Patent Publication No. 11-316220A ("JP '220") in view of U.S. Patent No. 4,845,041 to Scuitto et al. ("Scuitto"). This rejection is respectfully traversed.

JP '220 does not disclose a cooling device for cooling at least one of the anodes or the cathode, the cooling device set at a temperature of approximately 50°C or below to prevent recontamination of the metal sample during sputtering, as recited in claim 13. Additionally, JP '220 does not disclose an analyzing apparatus including means for cooling at least one target site, at least one of the target sites including at least one of electrodes for sputtering, counter electrodes for sputtering, and a holder, and the means for cooling set at a cooling temperature of approximately 50°C or below to prevent recontamination of the metal sample, as recited in claim 17. Further, JP '220 does not disclose a pretreatment method including the step of cooling, at least one of the anodes or the cathode, at a cooling temperature of approximately 50°C or below to prevent recontamination of the metal sample during sputtering, as recited in claim 19. See also specification, page 4, line 29 - page 5, line 1.

The Office Action admits that JP '220 does not disclose a means for cooling. The Office Action asserts that this deficiency is made up by Scuitto. Specifically, the Office Action asserts that Scuitto discloses a cooling means. Thus, the Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to combine the teachings of JP '220 with the cooling means taught by Scuitto to draw off the heat from the electrode during sputtering. However, Scuitto does not make up for the deficiencies of JP '220. Nor does Scuitto disclose the features asserted to it by the Office Action.

Instead, Scuitto discloses a water-jacketed cooling member 25 that is in intimate thermal and electrical contact with the sample 24, simultaneously drawing off heat generated by the glow discharge and establishing the cathodic potential of the sample 24. (Thus in some literature the member 25 may be referred to as the "cathode.") See Scuitto, col. 2, lines 32-38 and Fig. 16. Additionally, Scuitto discloses that during the sputtering process, heat is generated at the sample surface in proportion to the power in the electrical discharge. Unless heat is carried away rapidly, the sample and adjacent parts of the apparatus overheat, degrading the accuracy of the analysis. Furthermore, to maintain a constant sputtering rate and thus precise absorbance readings, the sample temperature should be held constant. Accordingly, it is necessary to cool the sample to a stable temperature. See Scuitto, col. 17, lines 44-52. Scuitto also discloses that precision in absorbance measurements requires stabilizing the rate of disassociation (sputtering) of the sample. See Scuitto, col. 18, lines 29-30. Thus, Scuitto discloses cooling a sample in order to stabilize the sputtering rate.

Contrarily, the specification of the present application discloses removing contaminants on the surface of metal samples by sputtering while at least one of electrodes for sputtering is being cooled to prevent recontamination. See page 2, lines 14-23, page 4, lines 21-24, and page 8, lines 12-15. The specification of the present application discloses that an electrode surrounding a sample is heated in a sputtering step, so that a substance adsorbed on a counter electrode, such as water, is removed and the cleaned surface of the sample is re-oxidized by sputtering causing one example of recontamination. See page 2, lines 2-6. Therefore, when contaminants are removed from the surface of the metal samples by sputtering, an electrode surrounding the metal sample S is cooled. See page 4, lines 23-24. The cooling temperature may be set at a level to keep down the temperature of an electrode so as not to remove substances adsorbed to an anode, such as water. Generally, the electrode may be set at a temperature of about 50°C or below. Due to such cooling, the re-scattering of

contaminants removed by sputtering can be controlled, thus preventing the contaminants from readhering to the surface of a sample. See page 4, line 29 - page 5, line 3. Thus, the specification of the present application discloses cooling electrodes surrounding the metal sample during sputtering, not cooling the sample itself. Scuitto is completely devoid of these features.

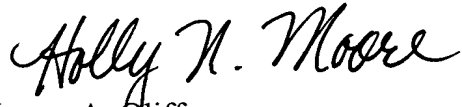
For at least these reasons, it is respectfully submitted that claims 13, 17 and 19 are distinguishable over the applied art. Claims 14 and 18, which depend from claim 13, are likewise distinguishable over the applied art for at least the reasons discussed, as well as for the additional features they recite. Withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

### **III. Conclusion**

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-11, 13-14 and 17-20 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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